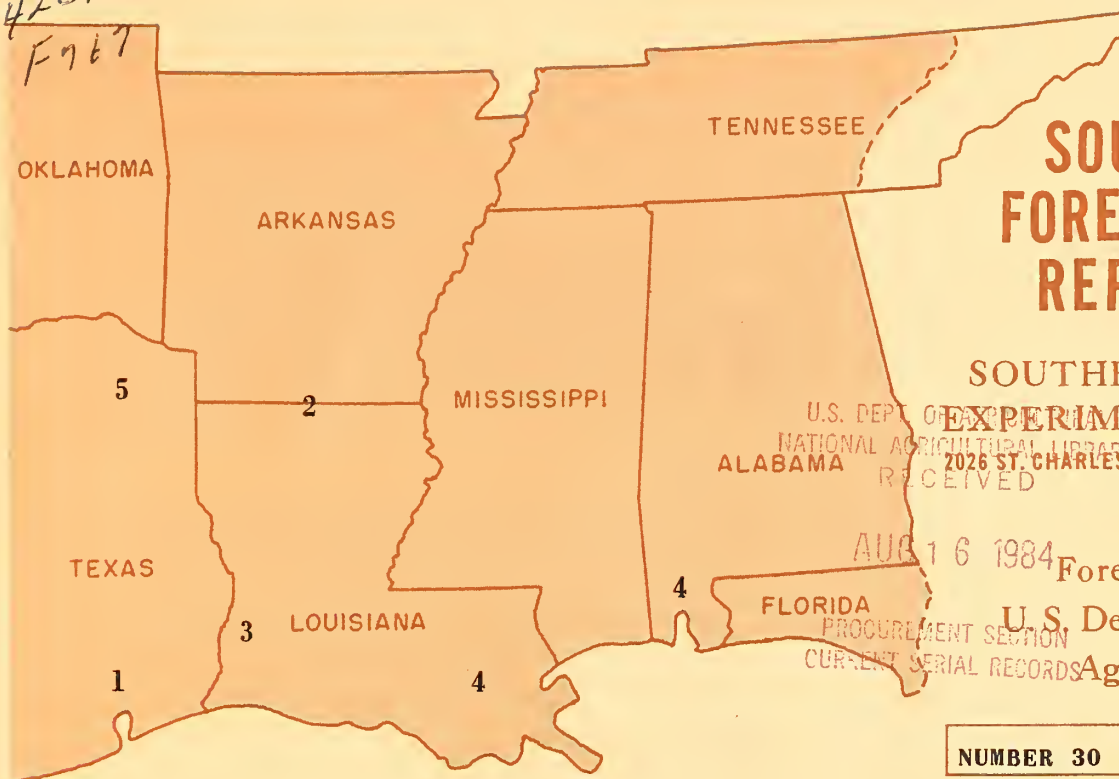


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SOUTHERN FOREST PEST REPORTER

SOUTHERN FOREST
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- 1 THE SOUTHERN PINE BEETLE, NOW SPREADING OUT OF CONTROL in east Texas, has killed an estimated 8 million board feet of timber in recent months.
- 2 IPS BEETLE POPULATIONS, DEVELOPING IN SALVAGED PULPWOOD in ice-damaged areas of north Louisiana and south Arkansas, threaten nearby weakened trees.
- 3 THE RED-HEADED PINE SAWFLY HAS REAPPEARED in western Louisiana; future uptrends are expected elsewhere.
- 4 THE FOREST TENT CATERPILLAR IS AGAIN DEFOLIATING hardwoods in Alabama and Louisiana, seriously weakening tupelo and gum on an estimated 550,000 acres.
- 5 FOMES ANNOSUS SERIOUSLY DAMAGES pine plantation in northeast Texas.

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SOUTHERN PINE BEETLE

Populations of the southern pine beetle, Dendroctonus frontalis, have increased alarmingly in southeast Texas, and are now at their highest since the 1949-51 epidemic. Late winter and spring reconnaissance flights, made by the Texas Forest Service over the outbreak area, revealed a steady increase in the number and size of spot infestations. Some landowners suppressed these hot spots promptly and thus checked the beetle without appreciable timber loss. Others failed to take action quickly enough or were hampered where high water made infested areas inaccessible. In early May, beetle populations became explosive; some untreated spots reached 300 acres in size.

Since the beginning of the current outbreak, 255 spots have been discovered by aerial surveys; 157 of these have been suppressed or are being treated. In early June, 98 spots lacked control; at least 5 covered more than 100 acres each. Beetles were spreading so rapidly that it was difficult to make accurate estimates. Some of the infested trees are more than 30 inches in diameter. At last estimate, 8 million board feet, mostly high-quality loblolly pine, had been killed.

Most infested areas are now accessible to control crews, who are trying to make up for lost time. Predaceous beetles and woodpeckers have been active in some stands, but so far have failed to check the outbreak. Unless unforeseen natural factors intervene, much heavier timber losses are in prospect.

Elsewhere in the Midsouth, no unusual activity of the southern pine beetle has been reported. As a precaution, however, aerial detection surveys will be made in July and August over former outbreak areas in Alabama and Mississippi. Industry and State agencies in both States are urged to watch for and report any unusual bark beetle activity on their lands.

BLACK TURPENTINE BEETLE

The black turpentine beetle, Dendroctonus terebrans, continued to threaten high-value trees in partially cut stands in the Gulf States. Beetles confined their spring activity mostly to stumps left from fall and winter logging, but with the arrival of hot, dry weather, they began attacking standing trees. As in the past, the situation is likely to worsen, especially on low, poorly drained sites where logging during the wet winter and early spring months skinned the trunks of residual trees and damaged their roots.

IPS BARK BEETLES

An Ips beetle potential is developing in portions of northern Louisiana, southern Arkansas, and possibly northeast Texas. In these areas, an unusually heavy ice storm severely damaged timber last March. Ice more than an inch thick flattened younger stands and broke branches and tops from larger trees. Heaviest damage was observed in pulpwood-size

stands, particularly in slash pine plantations that had been thinned within the past two years. Some tops and limbs hung from the trees; others dropped to the ground.

Most of the broken material dried out rapidly and so became unfavorable for substantial Ips development. In the early summer, however, heavy broods were found in salvaged pulpwood and in fresh slash left from cutting. Unless the pulpwood can be marketed quickly, and infested slash burned or sprayed with BHC, the emerging beetles will endanger adjacent weakened stands.

Ips populations otherwise were generally endemic, with localized infestations appearing in trees weakened or damaged by fire, logging, flooding, and lightning.

REPRODUCTION WEEVILS

The pitch-eating weevil, Pachylobius picivorus, and the pales weevil, Hylobius pales, recently caused severe bark puncturing and girdling in pine reproduction on several thousand acres in central Louisiana. Damage was first noticed late last summer and fall, following the cutting of seed trees in areas where seedlings had been established in 1957-1958. Heavy feeding and seedling mortality were most common in the vicinity of fresh-cut stumps, to which the weevils had first been attracted.

Fresh injury was again noticed in mid-April, suggesting that broods had emerged from stumps and roots left from last summer's cutting. Although bark feeding was heavy, no appreciable mortality was observed.

In areas where cutting was terminated last fall and no fresh stumps are available, weevils will probably soon leave to breed elsewhere. Where continued cutting is providing additional fresh stumps, further seedling damage and mortality may be expected.

PINE SAWFLIES

The red-headed pine sawfly, Neodiprion lecontei, reappeared in such numbers near DeRidder, Louisiana, that one landowner has aerially sprayed nearly 3,000 acres of young slash and longleaf pine plantations with DDT. Elsewhere in the Midsouth the insect has been scarce this year, but it often produces several generations in a summer and may thus become troublesome in some places where defoliation occurred last year, particularly in central Louisiana and east Texas.

The loblolly pine sawfly, Neodiprion taedae linearis, is scarce. In some other years it has been common in northern Louisiana and southern Arkansas.

PINE SPITTLEBUG

The pine spittlebug, probably Aphrophora parallela, was unusually abundant on loblolly pine in Angelina, Hardin, Liberty, San Jacinto, and Tyler Counties, Texas, and in central and northern Louisiana. The conspicuous masses of spittle were observed on trees up to 30 or more feet in height. The sucking nymphs transformed to adults in mid-May. Feeding damage by nymphs and adults has not become evident. Similar widespread infestations occurred in southern Arkansas last year without noticeable after-effects.

CARPENTER BEES

Reports of carpenter bees, Xylocopa spp., infesting outside wood structures were more numerous than usual. The large bumblebee-like insects were frequently seen in the vicinity of New Orleans and Baton Rouge, Louisiana. During May near Hope, Arkansas, thousands were observed boring into logs, porch ceilings, and doors on all sides of a large pine log cabin. Piles of boring dust were falling from pencil-size holes made by the bees, and pollen was splattered over wood beneath the holes.

LEADER KILL OF YOUNG FIELD PINE

In late March, entomologists at Louisiana State University reported that leaders on many young loblolly pines in Webster, Union, and Claiborne Parishes--in north Louisiana--were dead or dying from an unknown cause. The affected tops, which included from one to several whorls of branches, were mostly in natural stands 15 to 20 feet high. Generally the damage was light and scattered, but in some areas the tops of about one-third of the trees were killed. Other pines of the same height had forked or staghorn crowns and older trees were usually flat-topped, indicating a past history of the condition. No plantations of the same height as the field stands were observed, but younger trees 6 to 7 feet tall appeared normal.

On the sites involved, the soil contained quantities of reddish, rock-like iron deposits, and road excavations showed a thick hardpan of the same material a few feet beneath the surface. It is likely that restricted root development in this unfavorable soil has retarded leader growth.

Many dead leaders, but not all, contained full-size larvae and chip cocoons of a weevil, tentatively identified as Pissodes nemorensis. This species, which normally develops in dying pines and slash, probably attacked the leaders after they had died. The possibility of a primary fungus or virus infecting the leaders has been considered, but as yet neither has been found.

FOREST TENT CATERPILLAR

Alabama: Water tupelo and sweetgum forests in the Alabama River valley and surrounding pine-hardwood areas were defoliated again this spring by the forest tent caterpillar, Malacosoma disstria. Pure stands of tupelo in the lower valley were completely defoliated and the flowers destroyed; sweetgums on a large acreage were stripped. Other hardwoods, including oaks, ash, and birch, were also defoliated, and shrubs and shade trees in towns were damaged.

From an aerial survey, the total infestation was estimated to occupy above one million acres, on 56,000 of which defoliation was heavy. Similar outbreaks have occurred annually since 1953, with the result that many trees have died and others have dead branches in their tops. Severely defoliated trees are estimated to grow at less than half their normal rate, and the lack of natural reproduction is also causing concern.

Natural controls, including parasitic insects, a fungus, and possible virus infections, have so far failed to reduce populations to endemic levels. Parasitic insects in large numbers developed in older larvae and cocoons in 1960, however, and may help suppress the outbreak.

An Alabama timber company sprayed a 40-acre plot of heavily infested tupelo by plane in mid-April, using one pound of DDT per gallon of oil per acre. Within a day, all of the caterpillars had died. By early May the treated trees had nearly normal foliage, while surrounding stands were leafless.

Study plots in heavily infested sweetgum saplings were sprayed by hand with a virus disease organism that was effective in suppressing the Great Basin tent caterpillar, Malacosoma fragilis, in New Mexico. Caterpillars from the plots died and the virus has since been recovered from them. Establishment of the virus will be checked on the study plots next year.

Louisiana: Since 1958, severe spring defoliation of water tupelo, blackgum, sweetgum, and other hardwoods by the forest tent caterpillar has been observed along Highway 61 between New Orleans and Baton Rouge and to a lesser extent in river bottoms along Highway 190 westward to Krotz Springs.

In cooperation with the Louisiana Forestry Commission, aerial reconnaissance flights were made in May to determine the extent of infestation. Two major areas, each covering about 250,000 acres, appeared to be completely defoliated. One area, west of New Orleans and Lake Pontchartrain but north and east of the Mississippi River, involved parts of St. John, St. James, Ascension, and Livingston Parishes; the other, west of the Mississippi River, included much of the Atchafalaya Basin south of Highway 190 in Iberville and St. Martin Parishes.

An additional million acres, scattered in localized areas, had some defoliation. These smaller areas were prevalent in bottomlands surrounding areas of severe defoliation and in river bottoms to and across

the Sabine River where hardwoods other than gums made up a major portion of the stands. Soft maple, sycamore, and cottonwood in these areas were not noticeably affected; neither were the continuous stands of willow in swamps toward the Gulf.

Most of the caterpillars had spun cocoons by mid-May and moths began to appear a week later. New leaves have since started to form, but when fully developed they will probably be smaller and less abundant than normal.

Limited ground observations failed to disclose evidence of disease among the caterpillars, but mass starvation probably occurred in completely defoliated areas. Several species of parasites have been reared from cocoons collected in widely separated areas, but it is evident that natural control factors are still only partially effective. Indications are that extensive severe defoliation will occur again next spring.

SOUTHERN FOREST INSECT WORK CONFERENCE

The Fifth Annual Southern Forest Insect Work Conference will be held in the Dempsey Hotel at Macon, Georgia, December 6-8, 1960.

FOREST DISEASES

Root Rot

The third serious attack of Fomes annosus root rot in the Mid-south has been found in a 22-year-old slash pine plantation in north-eastern Texas. The plantation is north of the usual planting range for slash pine, but was growing well. Root rot caused by this fungus developed after the first thinning, and has already reduced stand density seriously.

Although Fomes annosus occurs in natural stands, it is more frequent and more damaging in plantations. All species of southern pine are vulnerable. The disease usually enters stumps left after thinning and spreads to the root systems of the remaining trees. Intensive surveys are planned to determine the extent of F. annosus in the Mid-south and to appraise its economic importance. The information will be timely in view of the large acreage of southern pine plantations nearing the age for thinning.

Nursery Diseases

Damping-off was common in two pine tree nurseries. One had 8 to 15 percent mortality; the other averaged 2 to 5 percent, but contained some areas where 20 percent of the seedlings died. Both nurseries had been sprayed with Captan, and at one damping-off occurred even in beds fumigated with methyl bromide. As usual, the killing period was short and the attack subsided quickly.

Tree Rusts

Several minor rusts have been reported as common in widely scattered parts of the South.

The cedar-apple rust (Gymnosporangium juniperi-virginianae or G. globosum) was abundant on junipers. The orange to brown "cedar apples," which become jelly-like when moist, were conspicuous. Except for temporary disfigurement, damage is usually negligible.

A related rust (G. clavipes) was found in appreciable amounts on eastern redcedar in northeastern Mississippi, but apparently caused only minor damage. Small galls, developing on infected branches and twigs, in the spring ooze gelatinous orange tendrils similar to those on cedar apples.

Pine needle rust (Coleosporium spp.) was again common on longleaf, loblolly, and slash pine this spring. Damage is considered unimportant and no feasible control is known.

Cone rust (Cronartium strobilinum) was less abundant in south Mississippi in 1960 than in the preceding 3 years. Apparently, weather was not favorable to extensive cone infection. An April survey in Louisiana and east Texas disclosed no cone rust on planted slash pine west of its natural range, or on native longleaf pine (the other susceptible pine) even when close to live oak, the alternate host. An earlier survey in January disclosed cone rust on live oak as far south as Kenedy County, Texas. Although conditions were unsuited for cone infection in western Louisiana and eastern Texas in 1960, there is no assurance that infection will not develop in future years. Therefore, seed production areas for slash or longleaf pine are safer if they are outside the live oak belt. Cone rust need not be considered in loblolly seed production because the species has natural immunity.

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